# **NRMP Projects Cataloguing Tool**

Metadata Standard for Version 1.0

Note: Required fields are required for those projects <u>entered directly</u> into NRMP cataloguing tool. See Schema for minimum fields required for uploaded records.

# **SECTION 1: Bibliographic Info/Goals & Objectives**

Field Label: Title

**Definition:** The formal title of the monitoring project being described. The title should give some

indication about what the subject or target of the monitoring activity.

Required/Optional: Required

Field Type: textbox Repeatable: no

Maximum Field Length: 500 characters

**Format Guidance:** Drop A, An, or The if it is the first word in the project title. Capitalize all words in the title, except: the articles "a," "an," and "the"; the coordinate conjunctions "and," "or," and

"nor"; and the infinitive "to."

Field Label: Project Investigator(s)

**Definition:** The names(s) of the primary researcher(s) designing and leading the monitoring

activity.

Required/Optional: Optional
Field Type: textboxes
Repeatable: Yes

Maximum Field Length: 300 characters

**Format Guidance:** FirstName [MiddleInitial] LastName (e.g. John D. Smith) or FirstInitial [MiddleInitial] LastName (e.g. J.D. Smith). If the project has more than one Investigator, add a

second name in a new textbox. Only one author should be entered in each textbox.

Field Label: Lead Agency / Organization

**Definition:** The name of agency or organization that is sponsoring or underwriting the monitoring project. For monitoring projects with co-lead agencies, both leads may be entered in this field.

Required/Optional: Required

Field Type: Textbox(es) with lookup to Organizational Name Authority File

Repeatable: Yes

Maximum Field Length: 500 characters

Format Guidance: Spell out the agency or organizational name. Do not use acronyms or

abbreviations.

Field Label: Project Contact Name

**Definition:** An individual working on the project who is the designated initial point of contact for

questions about the project.

Required/Optional: Required

Field Type: Textbox Repeatable: No

Maximum Field Length: 200 characters

Format Guidance: Textbox entry of FirstName LastName (e.g. John Smith).

Field Label: Project Contact Agency

**Definition:** The agency or organization with whom the primary contact is employed.

Required/Optional: Required

Field Type: Textbox Repeatable: No

Maximum Field Length: 500 characters

Format Guidance: Spell out the agency or organizational name. Do not use acronyms or

abbreviations.

Field Label: Project Contact Street Address

**Definition:** The street address or post office box at which the Project Contact can receive

physical mail.

Required/Optional: Required
Field Type: Textbox(es)
Repeatable: Yes

Maximum Field Length: 500 characters

Format Guidance: Enter street address information in the format required by the postal service

for delivery to the physical address of the Project Contact.

Field Label: Project Contact City

**Definition:** The city in which the Project Contact can receive physical mail.

Required/Optional: Required

Field Type: Textbox Repeatable: No

Maximum Field Length: 100 characters

Format Guidance: Enter the city in the format required by the postal service for delivery to the

city of the Project Contact.

Field Label: Project Contact State or Province

**Definition:** The state or province in which the Project Contact can receive physical mail.

Required/Optional: Required

Field Type: Textbox Repeatable: No

**Maximum Field Length:** 50 characters

Format Guidance: Enter the state or province in the format required by the postal service for

delivery to the city of the Project Contact.

Field Label: Project Contact Postal Code

**Definition:** The postal or ZIP code at which the Project Contact can receive physical mail.

Required/Optional: Required

Field Type: Textbox Repeatable: No

Maximum Field Length: 15 characters

Format Guidance: Enter the postal or zip code in the format required by the postal service for

delivery to the city of the Project Contact.

Field Label: Project Contact Country

**Definition:** The country in which the Project Contact can receive physical mail.

Required/Optional: Required

Field Type: Picklist that enforces ISO country list

**Repeatable:** No **Maximum Field Length:** n/a

Format Guidance: Enter the country in the format required by the postal service for delivery to

the city of the Project Contact.

Field Label: Project Contact Phone Number

**Definition:** The official phone number at which the Project Contact may be reached to answer

questions about the monitoring project.

Required/Optional: Optional

Field Type: Textbox Repeatable: No

Maximum Field Length: 50 characters

Format Guidance: Enter the phone number in the order in which the numbers must be dialed.

For countries outside of the United States, please enter the relevant country code at the

beginning of the series. Also, be sure to include any area codes.

Field Label: Project Contact Email Address

**Definition:** The official electronic mail address at which the Project Contact can receive written

inquiries about the Project.

Required/Optional: Optional

Field Type: Textbox Repeatable: No

**Maximum Field Length:** 150 characters

Format Guidance: Enter the electronic mail address in the accepted Internet format of

person@domain.namespace (e.g. janedoe@federalagency.gov).

Field Label: Partner(s)

**Definition:** An organization or agency that has some role in the monitoring project, but does not have primary responsibility for the management and outcome of the project. A partner agency role might include activities such as providing supplemental funding, contributing staff or equipment, assisting in data collection, assisting in analysis of data, or providing supplemental data to the project.

Required/Optional: Optional Field Type: Textbox(es) Repeatable: Yes

Maximum Field Length: 500 characters

Format Guidance: Spell out the agency or organizational name. Do not use acronyms or

abbreviations.

## Field Label: Purpose/Objective/Goals/Questions

**Definition:** A brief, narrative description of the purpose of the project; why is it needed, what specific research questions or goals it seeks to answer, and how the results will impact the state of knowledge about the object of the monitoring.

A **goal** is a concise, general statement of the overall purpose of a program Examples of a monitoring goal:

- Provide early warning of abnormal conditions of selected resources to help develop effective mitigation measures and reduce costs of management in Rocky Mountain National Park.
- Provide data to meet certain legal and Congressional mandates related to natural resource protection in Mason Neck Wildlife Refuge.

**Monitoring objectives** provide additional detail about what the monitoring program will do. Examples of specific monitoring objectives:

- Develop and maintain a predictive "risk of occurrence" search model for target species based on life history attributes, dispersal modes, invasion corridors, vectors of spread, invasibility of areas and known locations.
- Improve understanding of relationships between freshwater and brackish water animal communities and their habitat by correlating physical and chemical habitat measures with changes in distribution and abundance of fish and invertebrates.
- Determine long-term trends in groundwater withdrawal and saltwater intrusion through measurement of groundwater levels, discharge rates, and salinity at selected sites.

A **question** in the context of monitoring refers to an unknown variable, condition, or effect that the monitoring activity seeks to uncover. It is the driving scientific question behind the design of the monitoring project.

Required/Optional: Required

Field Type: textbox Repeatable: No

Maximum Field Length: 4000 characters

Format Guidance: Describe the purpose/objective in complete sentences.

Field Label: Management Question(s) Addressed by the Monitoring

**Definition:** Conveys what topical monitoring issue, condition, or problem of relevance to the

natural resources management community is addressed by the monitoring activity.

Required/Optional: Required Field Type: checkboxes

Multiple Values Selectable: Yes

**Available Values:** 

Fire

Extreme weather events

Climate change

Threatened and endangered species

Restoration--aquatic/terrestrial

Wilderness character Recreation impacts Land use conversion

Population status or trends

Noise effects Light pollution Agricultural practice Herbivory effects

Invasives--aquatic/terrestrial

Insect infestations
Disease/pathogens

Contaminants--water, soils, air, biota Renewable resource use--plant, animal

Resource extraction

Other \_\_\_\_\_

Maximum Field Length: for "Other", 50 characters

**Format Guidance:** Select one or more relevant values using the checkboxes. If your monitoring activity addresses a management question not included in the values provided, check the box next to "Other" and enter a <u>brief</u> (1-6 word) descriptive phrase in the textbox provided.

Field Label: Methodology

**Definition:** A brief narrative summary of the standard, repeatable procedures and practices

which govern the project, including sampling design.

Required/Optional: Required

Field Type: textbox

Maximum Field Length: 2500 characters

Format Guidance: Using complete sentences, enter the methodology summary in the textbox.

Field Label: Methodology Keywords

Definition:

Required/Optional: Required Field Type: radio buttons **Available Values:** \_\_ Point count

\_\_ Transect

\_\_ Probability Survey

Dredge Other

Multiple Values Selectable: No

**Maximum Field Length:** n/a except for "Other" – 50 characters

Format Guidance: Select one or more relevant values using the checkboxes. If your monitoring activity utilizes a methodology not included in the values provided, check the box next to "Other" and enter a brief (1-6 word) descriptive phrase in the textbox provided.

## Field Label: Protocol(s) Used

Definition:

Required/Optional: Optional

Field Type: Lookup tool, accessible via a button, to the Protocols Library to link the Project to

existing Protocols in NRMP. Repeatable: Yes Maximum Field Length: n/a

Format Guidance: The official title of the protocol(s) used will be imported automatically from the

Protocols Library via the built-in lookup tool.

# **SECTION 2: Primary Focus**

Field Label: Primary Monitoring Focus

Definition:

Required/Optional: Required Field Type: Hierarchical Checkboxes

Multiple Values Selectable: Yes, at all Levels

Format Guidance: Values for this field must follow the framework articulated below. At least one selection at Level 1 is required for creation of a valid record.

#### [Level 1] Air & Climate

[Level 2] Air Quality [Level 3] Ozone

> Wet and Dry Deposition Visibility and Particulate Matter

Air Contaminants

[Level 2] Weather and Climate

#### **Geology and Soils** [Level 1]

[Level 2] Geomorphology

Windblown Features and Processes [Level 3]

Glacial Features and Processes Hillslope Features and Processes

Coastal/Oceanographic Features and Processes

Marine Features and Processes Stream/River Channel Characteristics Lake Features and Processes

[Level 2] Subsurface Geologic Processes

[Level 3] Geothermal Features and Processes

Cave/Karst Features and Processes Volcanic Features and Processes

Seismic Activity

[Level 2] Soil Quality

[Level 3] Soil Function and Dynamics

[Level 2] Paleontology

# [Level 1] Water

[Level 2] Hydrology

[Level 3] Groundwater Dynamics

Surface Water Dynamics

Marine Hydrology

[Level 2] Water Quality

[Level 3] Water Chemistry

**Nutrient Dynamics** 

**Toxics** 

Microorganisms

Aquatic Macroinvertebrates and Algae

# [Level 1] Biology

] —	J	
[Level 2]	Taxonomic Groups	
[Level 3]	Microbes	
	[Level 4]	Specific Species [Scientific Name & Common Names]
[Level 3]	Lichens	
	[Level 4]	Specific Species [Scientific Name& Common Names]
[Level 3]	Plants, vascular	
	[Level 4]	Specific Species [Scientific Name & Common Names]
[Level 3]	Plants, non-vaso	cular
	[Level 4]	Specific Species [Scientific Name & Common Names]
[Level 3]	Invertebrates	
	[Level 4]	Specific Species [Scientific Name & Common Names]
[Level 3]	Amphibians	
	[Level 4]	Specific Species [Scientific Name & Common Names]
[Level 3]	Reptiles	
		Specific Species [Scientific Name & Common Names]
[Level 3]	Fishes	
		Specific Species [Scientific Name & Common Names]
[Level 3]		
		Specific Species [Scientific Name & Common Names]
[Level 3]	Mammals	
	[Level 4]	Specific Species [Scientific Name & Common Names]

### Notes:

- provide a lookup tool to ITIS for Level 4. Selection from lookup tool will populate both Scientific and Common Names fields
- must be able to select multiple Level 3s under Taxonomic Groups
- Level 4 should be a REPEATABLE field within a given Level 3 selection

### [Level 2] Habitats

[Level 3] 1. Forest

[Level 4] 1.1. Boreal

- 1.2. Subarctic
- 1.3. Subantarctic
- 1.4. Temperate
- 1.5. Subtropical/Tropical Dry
- 1.6. Subtropical/Tropical Moist Lowland
- 1.7. Subtropical/Tropical Mangrove

		Subtropical/Tropical Swamp     Subtropical/Tropical Moist Montane
[Level 3]	2. Savanna [Level 4	1] 2.1. Dry Savanna
[] 0.40[ 2]	3. Shrubland	2.2. Moist Savanna
[Level 3]		3.1. Subarctic 3.2. Subantarctic 3.3. Boreal 3.4. Temperate 3.5. Subtropical/Tropical Dry 3.6. Subtropical/Tropical Moist 3.7. Subtropical/Tropical High Altitude 3.8. Mediterranean-type Shrubby Vegetation
[Level 3]	4. Grassland	o.c. modicinancan type on abby vogotation
	[Level 4	<ul> <li>4.1. Tundra</li> <li>4.2. Subarctic</li> <li>4.3. Subantarctic</li> <li>4.4. Temperate</li> <li>4.5. Subtropical/Tropical Dry Lowland</li> <li>4.6. Subtropical/Tropical Seasonally Wet/Flooded Lowland</li> <li>4.7. Subtropical/Tropical High Altitude</li> </ul>
[Level 3]	5. Inland Wate [Level 4	Inote: this is a change from original picklist]  5.1. Permanent Rivers/Streams/Creeks [includes waterfalls] 5.2. Seasonal/Intermittent/Irregular Rivers/Streams/Creeks 5.3. Shrub Dominated Wetlands 5.4. Bogs, Marshes, Swamps, Fens, Peatlands 5.5. Permanent Freshwater Lakes [over 8 ha] 5.6. Seasonal/Intermittent Freshwater Lakes [over 8 ha] 5.7. Permanent Freshwater Marshes/Pools [under 8 ha] 5.8. Seasonal/Intermittent Freshwater Marshes/Pools [under 8 ha] 5.9. Freshwater Springs and Oases 5.10. Tundra Wetlands [includes pools and temporary waters from snowmelt] 5.11. Alpine Wetlands [includes temporary waters from snowmelt] 5.12. Geothermal Wetlands 5.13. Permanent Inland Deltas 5.14. Permanent Saline, Brackish or Alkaline Lakes 5.15. Seasonal/Intermittent Saline, Brackish or Alkaline Marshes/Pools 5.17. Seasonal/Intermittent Saline, Brackish or Alkaline Marshes/Pools 5.18. Karst and Other Subterranean Hydrological Systems
[Level 3]		[inland] s [e.g. inland cliffs, mountain peaks]
[Level 3]		Subterranean Habitats (non-aquatic) 4] 7.1. Caves 7.2. Other Subterranean Habitats
[Level 3]	8. Desert [Level 4	4] 8.1. Hot 8.2. Temperate 8.3. Cold
[Level 3]	9. Sea [Level 4	9.1. Open 9.2. Shallow [usually less than 6 m deep at low tide; includes sea bays and straits] 9.3. Subtidal Aquatic Beds [kelp beds, sea- grass beds and tropical marine meadows]
[Level 3]	10. Coastline [Level 4]	<ul> <li>9.4. Coral Reefs</li> <li>10.1. Rocky Shores [includes rocky offshore islands and sea cliffs]</li> <li>10.2. Sand, Shingle or Pebble Shores [includes sand bars, spits, sandy islets, dune systems]</li> <li>10.3. Estuarine Waters</li> <li>10.4. Intertidal Mud, Sand or Salt Flats</li> </ul>

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10.5. Intertidal Marshes [includes salt marshes]
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10.6. Coastal Brackish/Saline Lagoons 10.7. Coastal Freshwater Lagoons

10.8. Karst and Other Subterranean Hydrological Systems

[marine/coastal]

[Level 3] 11. Artificial - Terrestrial

[Level 4] 11.1. Arable Land

11.2. Pastureland11.3. Plantations11.4. Rural Gardens11.5. Urban Areas

11.6. Subtropical/Tropical Heavily Degraded Former Forest

[Level 3] 12. Artificial - Aquatic

[Level 4] 12.1. Water Storage Areas (over 8 ha)

12.2. Ponds (below 8 ha) 12.3. Aquaculture Ponds 12.4. Salt Exploitation Sites 12.5. Excavations (open)

12.6. Wastewater Treatment Areas

12.7. Irrigated Land [includes irrigation channels] 12.8. Seasonally Flooded Agricultural Land 12.9. Canals and Drainage Channels, Ditches

12.10. Karst and Other Subterranean Hydrological Systems

[human-made]

[Level 3] 13. Introduced Vegetation

[Level 3] **14. Other** [Level 3] **15. Unknown** 

#### Notes:

- must be able to select multiple Level 3s and Level 4s

# [Level 1] Landscapes

[Level 2] Fire and Fuel Dynamics

[Level 3] Land Cover and Use

[Level 2] Extreme Disturbance Events

Soundscape Viewscape

[Level 3] Viewscape

Dark Night Sky

[Level 2] Nutrient Dynamics

[Level 3] Nutrient Dynamics

[Level 2] Energy Flow

[Level 3] Primary Production

[Note: the following 3 Level-1 categories should be included, but grayed-out/non-selectable, with "Under Development" posted next to them. Once Levels 2 and 3 are defined, these will be added to the "Focus" options]

## [Level 1] Social

# [Level 1] Economic

Maximum Field Length: 25 characters

Unknown

Format Guidelines: Select an option from the list presented.

# **SECTION 3: Project Status and Location**

Field Label: Project Status

**Definition:** Informs users whether the project is in the planning stages, is currently in process, is

inactive, or has been discontinued.

Required/Optional: Required

Field Type: picklist

**Available Values:** 

Active Inactive Discontinued Planned

Multiple Values Selectable: No Maximum Field Length: 25 characters

Format Guidance: Select one value from the picklist.

Field Label: Project Start Date

**Definition:** The date on which the monitoring project began.

Required/Optional: Required

Field Type: textbox/pulldown menus to enforce ISO date format of YYYY-MM-DD

Repeatable: No

Maximum Field Length: 10 characters

Format Guidance: At minimum, the date YYYY must be specified. It is preferable that the month

MM also be specified. DD is optional; default setting for DD will be 00.

Field Label: Project End Date

**Definition:** The date on which the monitoring project was discontinued. Ongoing monitoring

projects will not have a value entered in this field.

Required/Optional: Optional

Field Type: textbox/pulldown menus to enforce ISO date format of YYYY-MM-DD

Repeatable: No

**Maximum Field Length:** 10 characters

Format Guidance: At minimum, the date YYYY must be specified. It is preferable that the month

MM also be specified. DD is optional; default setting for DD will be 00.

Field Label: Monitoring Location Place Name

**Definition:** A recognized name of the place in which the monitoring activity is carried out. This could be a county, a body of water, a park or other managed area. If monitoring locations are non-contiguous, multiple locations may be entered.

Required/Optional: Required, unless Bounding Coordinates are provided instead

Field Type: Lookup form to NBII Gazetteer of place names.

Checkbox beneath the textbox "Place Name not found in Gazetteer"

Repeatable: Yes

Maximum Field Length: 300 characters per selected location

**Format Guidance:** Users should enter the place name of their project, and then click "Search." The gazetteer will produce possible matches to the Place Name entered. The user should select the most appropriate match from the list presented.

## Field Label: Monitoring Location Specific Locality

**Definition:** This field allows the user to further refine a monitoring location Place Name, if desired, with more specific location information than is available in the Gazetteer. Locality can include directions, position, measurements, mile markers, or other landmarks that further define the particular location of a monitoring place. For instance, the user may have selected "Rocky Mountain National Park, Colorado, UNITED STATES" in the Place Name field, but also wishes to specify in the Locality field that "The monitoring transect was located on the Fern Lake Trailhead, from The Pool at mile 1.6 to Fern Falls at mile 2.4."

Required/Optional: Optional

Field Type: textbox Repeatable: Yes

Maximum Field Length: 400 characters

Format Guidance: Provide a narrative description in the textbox of the specific locale -

directions, mile markers, landmarks, trail names, etc.

# Field Label: Monitoring Location Bounding Coordinates

**Definition:** The location of the monitoring site in decimal degrees. Note that coordinates are automatically generated when a selection is made from the Gazetteer in the Place Name field. However, users with exact GPS coordinates may choose to enter coordinates directly in the Coordinates field. Manually entered coordinates will be retained by the system, and the Place Name field will display the closest match on Place Name in the Gazetteer to the manually provided coordinates. Note that this field is repeatable to address multiple, non-contiguous monitoring locations within a single project.

Required/Optional: Required, unless Place Name value(s) are entered instead

Field Type: textboxes which enforce X min/X max Y min/Y max

Repeatable: Yes

Maximum Field Length: 10 characters per textbox

Format Guidance:

# **SECTION 4: Data Availability and Contact**

Field Label: Data Availability

**Definition:** This field indicates whether the data derived from the project is currently available, is planned to be made available, or is not available to anyone external to the agency or to the project

Required/Optional: Required
Field Type: radio-buttons
Available Values:

\_\_ Data is available for external use

\_\_ Data is not yet available

\_\_ Data will not be made available for external use

Multiple Values Selectable: No Maximum Field Length: 100 characters

Format Guidance: Select one value by clicking on the radio-button next to the desired selection.

Field Label: Data Format

**Definition:** The general format in which data from this project is stored.

Required/Optional: Required if "Data is Available" response to Data Availability

Multiple Values Selectable: No Maximum Field Length: 25 characters

Format Guidance: Select one value by clicking on the radio-button next to the desired

selection.

Field Label: Data Online

This field indicates whether the data from this project is available electronically via the World Wide Web. Note that this field appears <u>only</u> when the metadata creator indicates in the "Data Availability" field that the "data is available."

Definition:

Required/Optional: Required if "Data is Available" response to Data Availability

Field Type: radio-buttons
Available Values:

\_Data is available online
Data is not available online

Multiple Values Selectable: No Maximum Field Length: 25 characters

Format Guidance: Select one value by clicking on the radio-button next to the desired

selection.

Field Label: Data URL

This field's appearance for data entry is dependent upon selection of "Yes"

response to Data Online

Definition: Required if "Data Online" response is affirmative

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 300 characters

Format Guidance: File path name must include http:// or ftp://

Field Label: Data Contact Name [ties the remaining fields to the name]

**Definition:** The first and last names of the person who serves as the point of contact for access

to or administration of the data associated with the monitoring project.

Required/Optional: Optional

Field Type: textbox

Repeatable: The whole Data Contact grouping is repeatable.

Maximum Field Length: 100 characters

Format Guidance: FirstName LastName (e.g. John Smith).

Field Label: Data Contact Position

**Definition:** The official position title of the Data Contact within his or her agency or organization

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 100 characters

Format Guidance: Use capitalization accordingly.

Field Label: Data Contact Street Address

**Definition:** The street address or post office box at which the Data Contact can receive physical

nail.

Required/Optional: Optional

Field Type: textbox
Repeatable: Yes

Maximum Field Length: 250 characters

Format Guidance: Enter street address information in the format required by the postal service

for delivery to the physical address of the Data Contact.

Field Label: Data Contact City

**Definition:** The city in which the Data Contact can receive physical mail.

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 100 characters

Format Guidance: Enter city in the format required by the postal service for delivery to the

physical address of the Data Contact.

Field Label: Data Contact State or Province

**Definition:** The state or province in which the Data Contact can receive physical mail.

Required/Optional: Optional Repeatable: No

Field Type: textbox

**Maximum Field Length:** 50 characters

Format Guidance: Enter state or province in the format required by the postal service for

delivery to the physical address of the Data Contact.

Field Label: Data Contact Postal Code

**Definition:** The postal or ZIP code in which the Data Contact can receive physical mail.

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 15 characters

Format Guidance: Enter postal or ZIP code in the format required by the postal service for

delivery to the physical address of the Data Contact.

Field Label: Data Contact Country

**Definition:** The country in which the Data Contact can receive physical mail.

Required/Optional: Optional

Field Type: Textbox

Multiple Values Selectable: No

Maximum Field Length: n/a

Format Guidance: Enter the country name in the format required by the postal service for

delivery to the physical address of the Data Contact.

Field Label: Data Contact Phone Number

**Definition:** The official phone number at which the Data Contact may be reached to answer

questions about the data associated with the monitoring project.

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 25 characters

Format Guidance: Enter the phone number in the order in which the numbers must be dialed.

For countries outside of the United States, please enter the relevant country code at the

beginning of the series. Also, be sure to include any area codes.

Field Label: Data Contact Email Address

**Definition:** The official electronic mail address at which the Data Contact may be reached to

answer questions about the data associated with the monitoring project.

Required/Optional: Optional

Field Type: textbox Repeatable: No

Maximum Field Length: 150 characters

Format Guidance: Enter the electronic mail address in the accepted Internet format of

person@domain.namespace (e.g. janedoe@federalagency.gov).